Defense Information Systems Agency
Department of Defense

JCTD Process Fundamentals

Advanced Concepts Office, Chief Technology Office

www.disa.mil/JCTD

Defense Information Systems Agency
Department of Defense

Agenda

- Introduction
- JCTD Characteristics
- Selection and Approval Criteria
- JCTD/DISA Selection Process
- Candidate Proposal Package
- JCTD Structure
- Program Execution
- Transition
- Best Practices (Lessons Learned)
- Summary

What is the role of DISA's Advanced Concepts Division?

- Provide an environment conducive to delivering capability to the warfighter faster, more effectively, and with greater accuracy.

- Technical Manager
  - **Plans, coordinates, and directs development activities**
  - **Develops life cycle cost estimates**
  - **Manages ACTD funding**
  - **Acquisition and programmatic support**
  - **Supports MUAs conducted by Operational Manager**

- Transition Manager
  - **Orchestrates transition planning and execution**
  - **Leads Transition IPT**
  - **Develops, updates, refines transition agreement**
  - **Supports TM and Lead Service in sustainment planning**
  - **Ensures out-year O&M funding**

Entry point for all JCTD's requiring DISA participation

Defense Information Systems Agency
Department of Defense

Characteristics of JCTDs

- Address COCOM needs with innovative concept and mature technology
- Provide capability solution with operational concepts and tactics, techniques & procedures
- Assess solutions in Warfighter Operational Demonstrations
- Usually joint, often combined / coalition / interagency / transformational
- Rapid Results: 1 to 3 years or less to final demonstration and a prototype interim capability
- Multiple funding sources with a Transition Agreement

Emphasis on Demonstration and Transition…try with intent to buy

Characteristics of JCTDs *(cont.*

- Team Effort (OM, TM, XM, OE, others)
- Project addresses COCOM's needs
  - JUONs, I PLs, STIPLs, operational problems, etc.
- Results in a significant increase in Joint / Coalition / Interagency Capability
- Committed partnerships
  - OSD & Partner funding clearly indicate executable program
- Identified transition strategy and committed Transition Manager
  - Continued transition planning/activities throughout the life of the JCTD
- Technical Maturity (Technical Readiness Level)
  - Provide sound basis for stated TRL levels
- Technical Demonstrations, Operational Demonstrations, Operational Utility Assessments
- Speed to delivery
  - Spiral out capabilities, where possible

Defense Information Systems Agency
Department of Defense

Selection & Approval Criteria

Department of Defense Research & Engineering Che

Each JCTD proposal must be able to answer yes to the following questions

- Does the JCTD fit the DoD mission space?
- Does the JCTD fit within the DDR&E imperatives?
- Does the JCTD fit within the RFD mission space?
- Is the JCTD free of operational activity?
- Is the JCTD free of Title 50 activities?
- Is the JCTD funded with R&D funds versus O&M funds? If there are O&M funds included in JCTD funding, please provide explanation.
- Are the success criteria for the JCTD clearly defined?

Defense Information Systems Agency
Department of Defense

JCTD Selection Process

Things staying the same:

- Annual call for proposals; proposals submitted at any time
- Candidate projects identified by Combatant Commands, Services and Agencies Interagency or Coalition Partners, and industry
  - Technical Manager from Service or Agency
  - Operational Manager from Combatant Command chain-of-command
  - Transition Manager from Acquisition Community
- USD(AT&L) is final approval of recommended new starts
- Congressional notification

Changes made in FY10: More delivery . . . Faster

- Semi Annual Candidate Decision Boards to recommend new starts
- Semi Annual Program Review Boards to review ongoing projects
- More short projects (1 year or less); fewer long term projects (more than 1 yea
- All projects structured for deliverables in first year, with annual review
- JROC validation – if needed - following first year of execution

Defense Information Systems Agency
Department of Defense

JCTD Selection Process *(cont.)*

- The DASD RFD has gone to a semiannual JCTD candidate nomination and Candidate Decision Board process
- Proposals that make it to the CDB have been socialized with the COCOMs and Services
- Prior to the CDB, proposals are socialized with other COCOMS and Agencies (to include DISA) to gain maximum support
- Proposed JCTDs approved by the CDB go to Congress for review

Defense Information Systems Agency
Department of Defense

DISA Selection Process

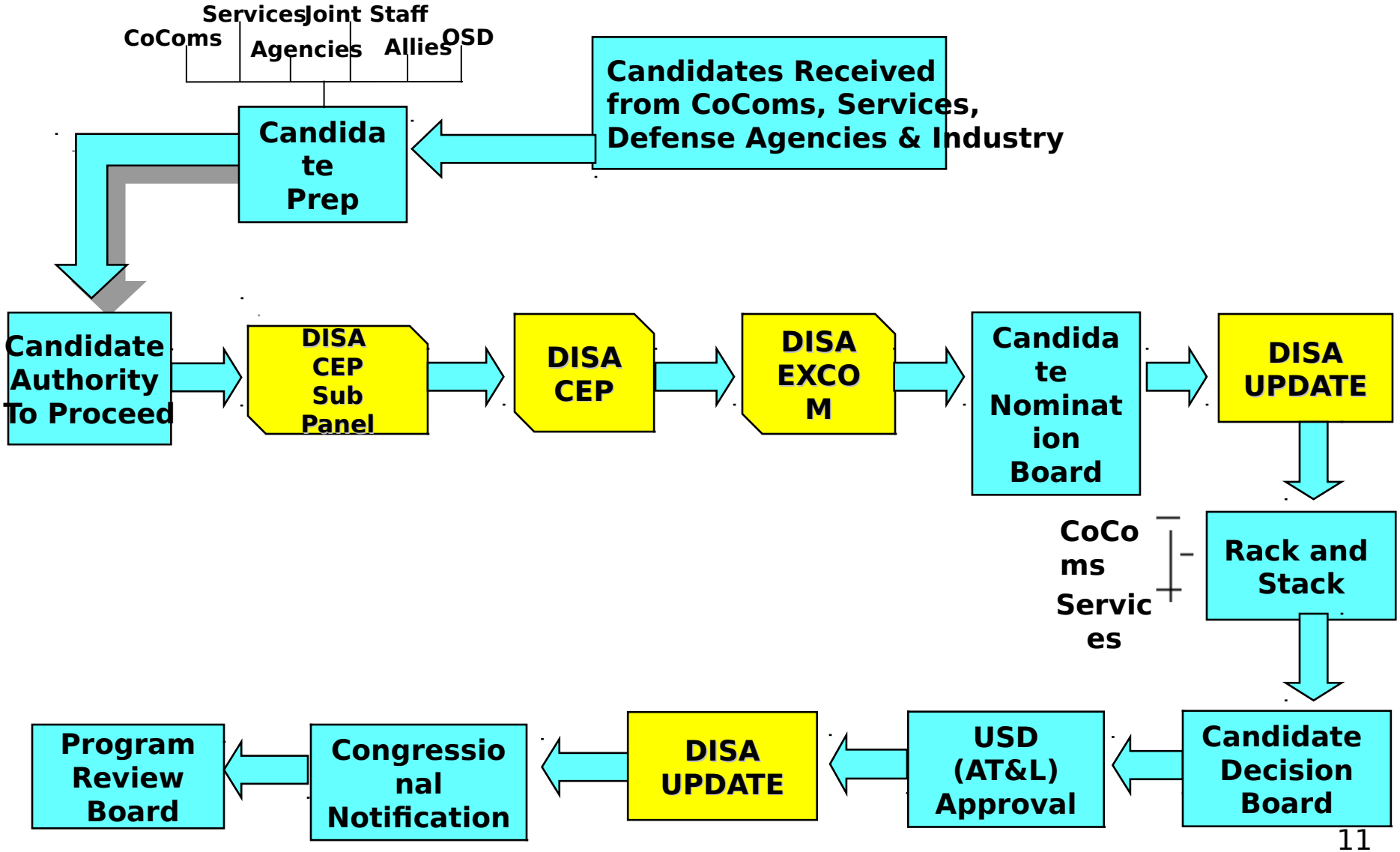
- DISA prepared for the decision board in the following manner:
  - The CTO hosted a series of CEP Sub Panels (at the 06/GS-15 /SME level) to review JCTD proposals prior to a vote by the CEP
  - The sub panel consisted of reps from each of the CEP members organization
    - Additional SMEs also participated (JCTDs require review by directorates not normally represented on the CEP)
  - The sub panel participated in DCO or in-person reviews of the JCTD candidates

Defense Information Systems Agency
Department of Defense

DISA Selection Process *(cont.)*

- The sub panel reviewed and assessed the proposed JCTDs on capability, architecture, engineering approach, development tools, funding source, capability maturity and transition strategy against DISA's network environment and platforms (if applicable, i.e., transition the capability to a DISA program or project)
- The sub panel members prepare their CEP member for a voting position on each of the proposals
- The CEP votes on the Agency's participation (e.g. Technical Manager Transition manager, funding and/or in-kind support, Agency lead role, Enterprise Manager)
- The CEPs voting results are presented to the EXCOMM for an Agency's endorsement
- Agency's results are sent to the DASD RFD

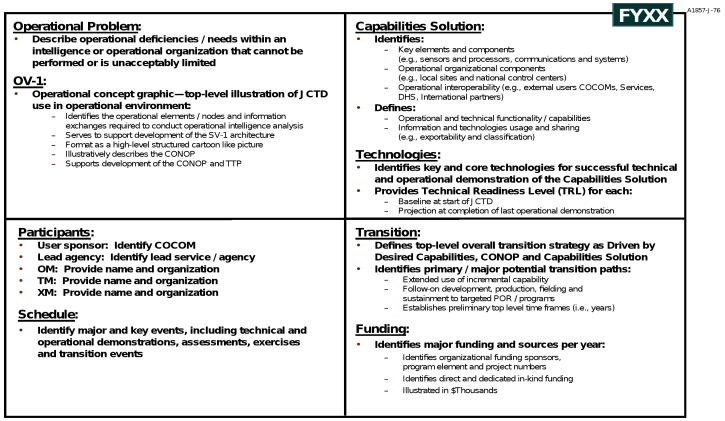
JCTD Semi Annual Selection Process
Identification, Selection & Approval



Defense Information Systems Agency
Department of Defense

Candidate Proposal Package

1. White Paper
2. Quad Chart
3. Proposal Briefing Format


FYXX

Operational Problem:
- **Describe operational deficiencies / needs within an intelligence or operational organization that cannot be performed or is unacceptably limited**

OV-1:
- **Operational concept graphic—top-level illustration of J CTD use in operational environment:**
  - Identifies the operational elements / nodes and information exchanges required to conduct operational intelligence analysis
  - Serves to support development of the SV-1 architecture
  - Format as a high-level structured cartoon like picture
  - Illustratively describes the CONOP
  - Supports development of the CONOP and TTP

Capabilities Solution:
- **Identifies:**
  - Key elements and components (e.g., sensors and processors, communications and systems)
  - Operational organizational components (e.g., local sites and national control centers)
  - Operational interoperability (e.g., external users COCOMs, Services, DHS, International partners)
- **Defines:**
  - Operational and technical functionality / capabilities
  - Information and technologies usage and sharing (e.g., exportability and classification)

Technologies:
- **Identifies key and core technologies for successful technical and operational demonstration of the Capabilities Solution**
- **Provides Technical Readiness Level (TRL) for each:**
  - Baseline at start of J CTD
  - Projection at completion of last operational demonstration

Participants:
- **User sponsor: Identify COCOM**
- **Lead agency: Identify lead service / agency**
- **OM: Provide name and organization**
- **TM: Provide name and organization**
- **XM: Provide name and organization**

Schedule:
- **Identify major and key events, including technical and operational demonstrations, assessments, exercises and transition events**

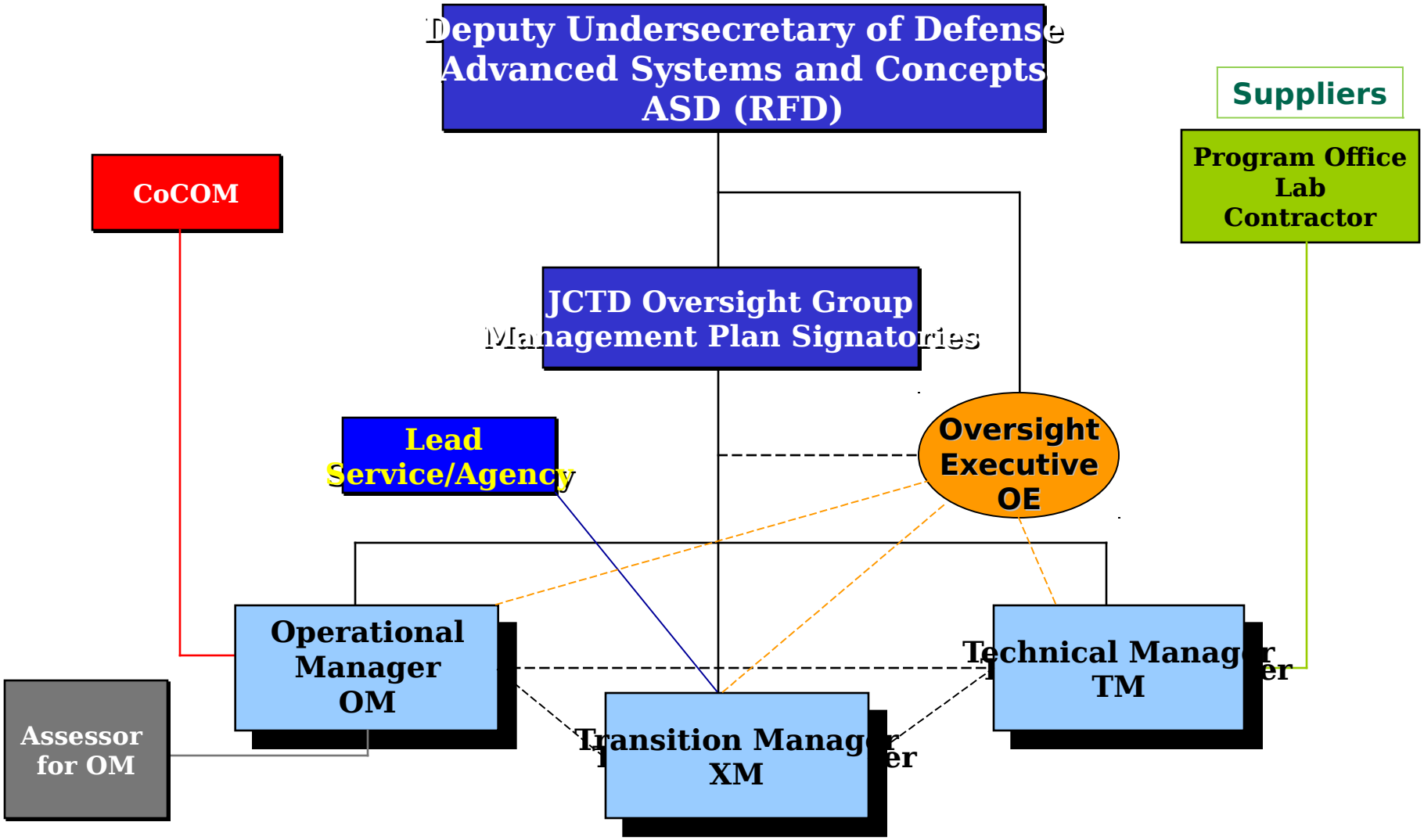
Transition:
- **Defines top-level overall transition strategy as Driven by Desired Capabilities, CONOP and Capabilities Solution**
- **Identifies primary / major potential transition paths:**
  - Extended use of incremental capability
  - Follow-on development, production, fielding and sustainment to targeted POR / programs
  - Establishes preliminary top level time frames (i.e., years)

Funding:
- **Identifies major funding and sources per year:**
  - Identifies organizational funding sponsors, program element and project numbers
  - Identifies direct and dedicated in-kind funding
  - Illustrated in $Thousands

Joint Warfighting Problem
Advanced Concept Solution
Concept Of Operations
Demon-stration Plan
Core Tech-nologies
Participants
Metrics
Integrated Schedule
Transition Strategy
Residuals
JCTD Costs
JCTD Funding Sources/ Notes
Summary

Project information and documentation needs to be loaded into KIMS

JCTD Management Structure



Successful JCTDs Require Frequent & Effective Communications & Collaboration
Among TM, OM, XM, Assisted by RFD OE

Defense Information Systems Agency
Department of Defense

JCTD Program Execution Remarks

- Implementation Directive signed 60 days from a positive decision from the CDB (3-5 pages)
  - Emphasizes partnership and resource commitment
  - Not detailed technical scope

- Management Plan required 60 days from start of JCTD (no set page recommendation)
  - Provides detailed information on technical, operational, and transition activities
  - A living document

- Tech Transition Agreement recommended to be in place by end of first year
  - Provides strong support to Project Review Board

Defense Information Systems Agency
Department of Defense

JCTD Program Execution Remarks

- Project Review Boards
  - Scheduled to occur nominally 12 months after receipt of funds and repeat in 12-month increments
  - Decision point
    - Continue JCTD as planned
    - Transition to service agency
    - Stop effort

- JCTD should highlight meaningful deliverables to support decision
  - Detailed designs
  - Technical demonstrations
  - Limited UAs
  - Spiral capabilities / fieldable prototypes

Defense Information Systems Agency
Department of Defense

JCTD Program Execution Remarks

- Utility Assessments
  - Interim or final
  - Conducted according to Integrated Assessment Plan
  - Based on results of operational demonstration(s)
  - Describes how the completion of the JCTD addressed the operational problem or need

- Vulnerability Assessments for selected projects
  - Conducted by Joint Information Operations Warfare Center Red Team, STRATCOM
  - Conduct Red Team activities to determine the strengths and weaknesses of the JCTD product

The most important thing
we do in a JCTD:
Rapidly transition new capability to the warfighter!

Defense Information Systems Agency
Department of Defense

Transition

- Transition planning and activities are persistent throughout the life of the JTCD
  - Proactive involvement with requirements community
  - Establish early partnerships with acquisition community
  - Plan for and secure resources to support transition
  - Plan for long lead transition activities
    - TTA, safety certification, frequency allocations, information assurance, Interim Authority to Operate and Authority to Operate, etc.

- Transition of a JCTD means:
  - Acceptance of products into existing Program of Record (POR)
  - Products inserted into a new POR
  - Extended use and sustainment of a JCTD residuals to provide operators an immediate capability

Defense Information Systems Agency
Department of Defense

Best Practices

Best practices to facilitate successful JCTD execution:

- Regular telecons
- Regular Integrated Management Team meetings
- Plan for operating under constraints of Continuing Resolution Authority
- Use of websites to maximize info connectivity:
  - KIMS
  - Data sharing for teams
- Utilize resources available to provide advice and assistance
  (In-process reviews/workshops/training/SMEs)
- Lessons Learned
  - ID assessment team early, work safety certifications, interoperability, accreditation, and frequency allocations early
- Identify issues early for OE support and resolution

Defense Information Systems Agency
Department of Defense

Summary

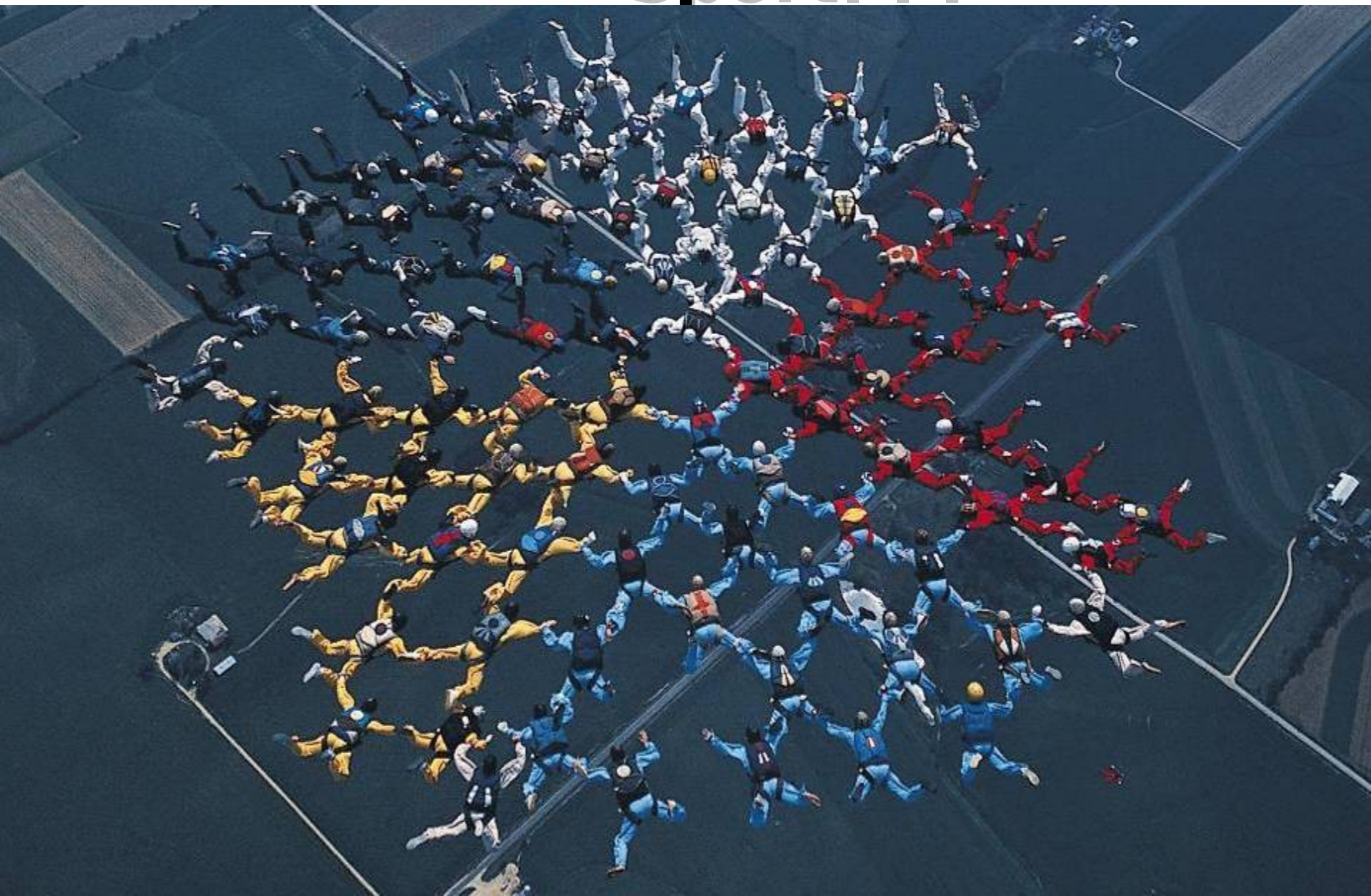
- The objective of the JCTD program is to rapidly demonstrate and deliver a significant operational capability to the warfighter

- JCTDs are not created equal but all share a fundamental set of common traits:

  - Based on strong partnerships
  - Direct operator input and involvement
  - Must conduct Operational Utility Assessments
  - Emphasize speed to delivery

DISA
Defense Information Systems Agency
Department of Defense

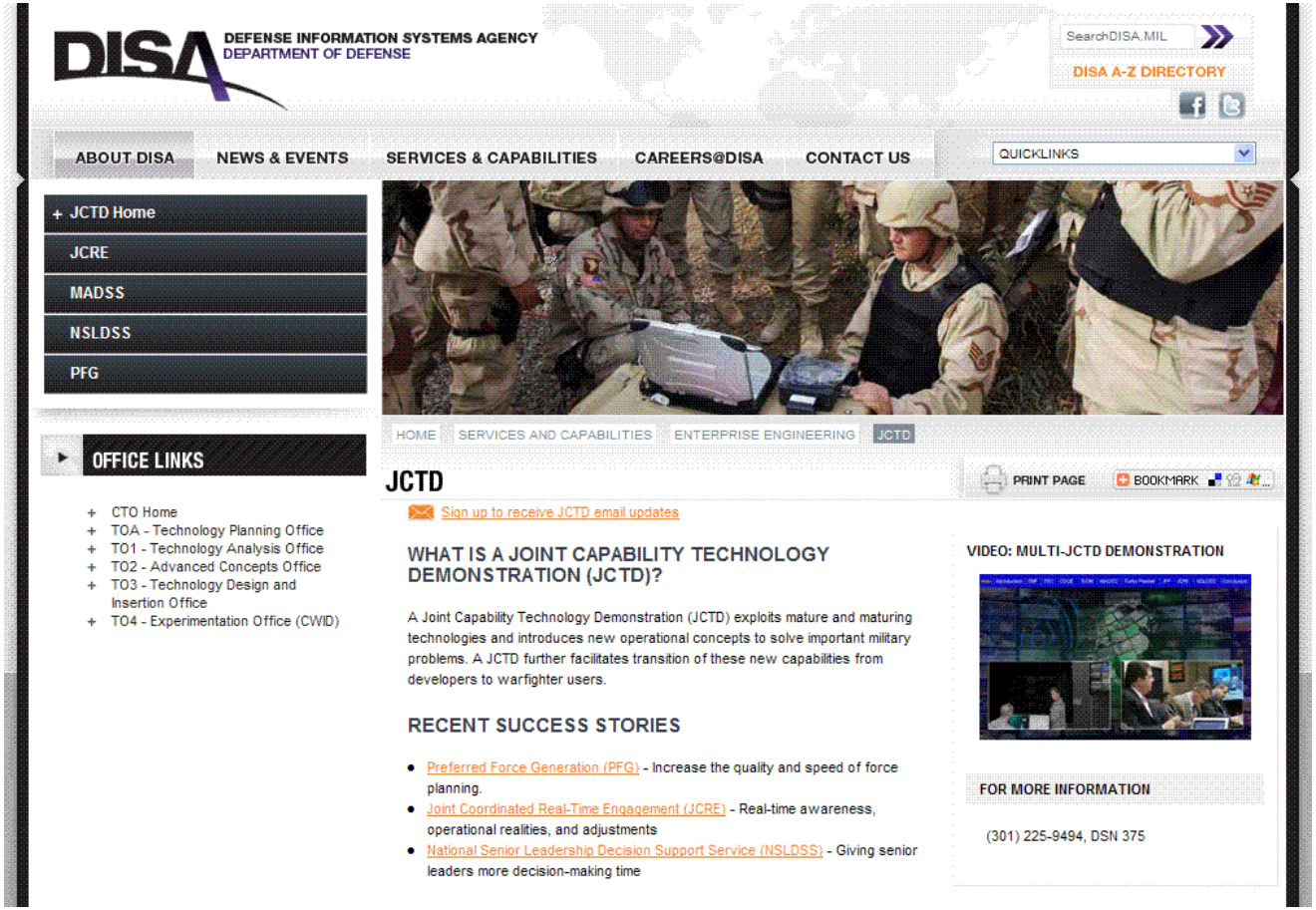
Delivering IT is a Team Sport. . .



Defense Information Systems Agency
Department of Defense

Information Access

DISA – www.disa.mil/jctd
OSD – www.acq.osd.mil/jctd


DISA
DEFENSE INFORMATION SYSTEMS AGENCY
DEPARTMENT OF DEFENSE
SearchDISA.MIL
DISA A-Z DIRECTORY
ABOUT DISA
NEWS & EVENTS
SERVICES & CAPABILITIES
CAREERS@DISA
CONTACT US
QUICKLINKS
+ JCTD Home
JCRE
MADSS
NSLDSS
PFG
OFFICE LINKS
+ CTO Home
+ TOA - Technology Planning Office
+ TO1 - Technology Analysis Office
+ TO2 - Advanced Concepts Office
+ TO3 - Technology Design and Insertion Office
+ TO4 - Experimentation Office (CWID)
HOME
SERVICES AND CAPABILITIES
ENTERPRISE ENGINEERING
JCTD
PRINT PAGE
BOOKMARK
JCTD
Sign up to receive JCTD email updates
WHAT IS A JOINT CAPABILITY TECHNOLOGY DEMONSTRATION (JCTD)?
A Joint Capability Technology Demonstration (JCTD) exploits mature and maturing technologies and introduces new operational concepts to solve important military problems. A JCTD further facilitates transition of these new capabilities from developers to warfighter users.
RECENT SUCCESS STORIES
Preferred Force Generation (PFG) - Increase the quality and speed of force planning.
Joint Coordinated Real-Time Engagement (JCRE) - Real-time awareness, operational realities, and adjustments
National Senior Leadership Decision Support Service (NSLDSS) - Giving senior leaders more decision-making time
VIDEO: MULTI-JCTD DEMONSTRATION
FOR MORE INFORMATION
(301) 225-9494, DSN 375

www.disa.mil
www.disa.mil/JCTD
www.acq.osd.mil/JCTD

- Lessons Learned
- Challenges
- Program Execution Considerations

Defense Information Systems Agency
Department of Defense

Rapid Development

Starting Up

- Must have an educated, motivated, hands on user community
  - Rapid delivery of capability starts with the warfighters
  - Operational community must get out ahead of the technical team (i.e. Op
  - Operational community must maintain contact with the development effo
  - Requires early/continuous warfighter involvement
    - ✓define and decide on requirements rapidly
    - ✓Unclassified/classified access to product builds
- Agile acquisition and development/integration efforts (higher technical read
  - Chief Engineers and Architects work shoulder to shoulder with the warfi
- System Engineering Group
  - Provide the Service Oriented Architecture/Environment (SOA/SOE) blue
- Inter-active Development Teams
  - distributive contractors
  - team building & effective communication (email, TELECONs, DCO, Powe
  - All Hands 1 –2 times per spiral

Strong Leadership/Management throughout the development te

Defense Information Systems Agency
Department of Defense

Rapid Development

Software Development

- Develop to a Standard vs. Time (does functionality/schedule drive the train?)
  - Whatever's delivered must be stable and perform as advertised
- Must find the "sweet spot" for the development of stable software
  - Higher TRL should lead to faster spirals
  - Spiral includes design review and bug fixing/testing
- Software integration early and often
  - Built and checked into CVS daily
  - Weekly build
  - Expose build to warfighters every other week

e Development: Quick Exposure to Warfighter for Immediate Feedb

Rapid Development

Software Development *(cont.)*

- Dedicated Quality Assurance Team
  - Separate from the Developers
- Build when ready
  - Start building as soon as possible
  - Refine along the way
- Capability performance must be defined/agreed upon
- Architectural Design (N Tier) must be sound
  - DOD Architecture Framework
  - Net-Centric Enterprise Services
- Prototyping future deliveries in parallel w/current development

Rapid Delivery

Security

- Accreditation
  - Approval process (e.g. 90 days)
  - Program instantiates security process and documents plan early
  - Target “Type” vs. “Local” accreditation requirements
  - Site Interim Authority To Test (IATT) in parallel with ATO certification process
- Attribute-Based Access-Controls (ABAC) solutions
  - Identity Management concepts
  - Role based approaches

Security accreditation is critical to the rapid delivering of software t

Defense Information Systems Agency
Department of Defense

Rapid Delivery

Interim Spiral Delivery

- Deliver capability as it becomes available
- Must stay within the ATO parameters

Warfighter Involvement

- Warfighters must be a part of the marketing plan
  - Lead the team when briefing other Commands/Agencies, etc
  - Play an active role in demonstrations and negotiations

Flexible Scheduling

- Written agreement on criteria for starting development

Defense Information Systems Agency
Department of Defense

Rapid Delivery

Data Accessibility

- Coordinate access timelines up-front:
  - Data sources must become web services
  - Expose data to the web
  - Register the web service in the UDDI

Streamlined Contracts

- Provide pre-positioned vehicles that are conducive to rapid contracting (e.g. Broad Agency Announcements and multi-year support vehicles)
- Incremental funding has to be acceptable criteria for starting a contract

Defense Information Systems Agency
Department of Defense

Key Terms

nual Call Letter - A request for JCTD proposal sent out every September that indicates proposal can b
bmitted at any time during the fiscal year.

ndidate Nomination Board (CNB) - The CNB reviews and approves which JCTD proposals will preced
either the Service and COCOM “Rack & Stack” or the Candidate Decision Board.

ndidate Decision Board (CDB) – The CDB develops a list of JCTD proposals that will be recommende
e Under Secretary of Defense for Acquisition, Logistics & Technology (USD (AT&L)) for final approval.

ck & Stack – A request to the Services and COCOMs to prioritize the JCTD proposals. Used to help
entify a final list of proposals recommended to the CDB.

nch Bunch Meetings – Meetings held periodically during the JCTD review process to socialize JCTD
posals and review status of proposals and selection process. Attendees normal include Service,
ency and Joint Staff representatives.

al Approval of JCTD Proposals – List from the CDB is presented to the (USD(AT&L)) for final approva
rmally done as part of the Congressional Notification process.

ngressional Notification – Once JCTD proposals are approved by the USD(AT&L) the Department mus
mit a report to Congress indicating which JCTDs it plans to initiate. By law, we must wait 30 days befor
gating funds to these JCTDs.

Congressional Notification

- Required each year by the Defense Appropriations Act.
- Because it's not a permanent requirement we have to wait for that year's appropriations bill to be passed before we can submit the Congressional Notification package to the Hill.
- Current approach – fully coordinate package prior to passage of appropriations bill and submit as soon as bill is passed.
- If successful, will result in minimal delay in start of JCTD because of time lag between passage of appropriations bill and when funds become available for disbursement.

Defense Information Systems Agency
Department of Defense

Candidate Nomination Board

Chair – Director of the Rapid Fielding Directorate

Board Members - Each COCOM, Service, and the Joint Staff Functional Capability Board is invited representatives.

Attendees – Depending on content, others may also be invited, such as representatives from Com Support Agencies, other US government departments, other Joint offices, and partner nation defen research and development organizations.

Invitation to CNB - The Director of the JCTD Program will determine if the proposals are ready for

Role of Board members and Potential Stakeholders * - Indicate their organizations intent for proposal under review:

- fully supports and has identified the resources to execute the JCTD
- is interested but additional work needed to identify resources and/or obtain full commitment
- will not support the JCTD candidate as briefed.

Joint Staff - Provide preliminary assessment :

- Is candidate addressing a valid need;
- Any concern that JCTD will be duplicating an existing or planned program.

CNB Decisions - Made by the Chairman after the Board has an opportunity to deliberate which JC proposals should go to “Rack & Stack” or CNB.

* Stakeholders – COCOM Sponsors, resource providers and potential transition partners.

Candidate Decision Board

Chair - DDR&E and co-chaired by Deputy J8, Joint Staff.

Participants - Stakeholders for JCTD proposals will be invited to participate.

Video Teleconference – Available to enable maximum stakeholder participation.

Invitation to CDB - JCTD proposals will in general go through a CNB prior to going to the CDB. As minimum the Director of RFD will have to determine if proposal is ready for the CDB.

Briefer - Director of the JCTD Program. One or more members of the proposal stakeholder team should be present to support the briefing.

CDB Decision - DDR&E and Deputy J8 will determine which JCTD proposals will be recommend to the USD (AT&L) for immediate start.

Proposals not Selected - Proposals not identified by the CDB for immediate start will be deferred and can be resubmitted to a future CNB. Sponsors or proposers can also withdraw proposals from consideration.

Defense Information Systems Agency
Department of Defense

JROC Validation

- JROC validation is no longer required prior to the “Rack & Stack.”
- However, early interaction with Joint Staff (JS) is encouraged. JS still involv
in the selection and approval process:
  - Have a representatives on the CNB and co-chair the CDB
  - Expected to provide their advice on the validity of the need being addressed and if the proposal is duplicating other activities
- Joint Requirements Oversight Council (JROC) validation will take place afte
first Program Review Board (PRB) for those JCTDs approved to proceed
The process that should be followed:
  - Project teams brief the appropriate Functional Capability Board (FCB) working group.
  - Working group lead (or project team if desired) briefs the FCB.
  - FCB will determine if additional briefing is needed to Joint Capability Board (JCB), or if paper recommendation will be forwarded.
  - JCB will typically forward a paper validation to JROC for signature, although JCB may determine that a JROC brief is needed in some cases.
  - The validation process should take about 6 weeks.

Defense Information Systems Agency
Department of Defense

Selection & Approval Criteria

Minimum Requirements

Relevance: The JCTD proposal must be addressing a capability gap that is acknowledged by at least one COCOM and the Joint Staff.

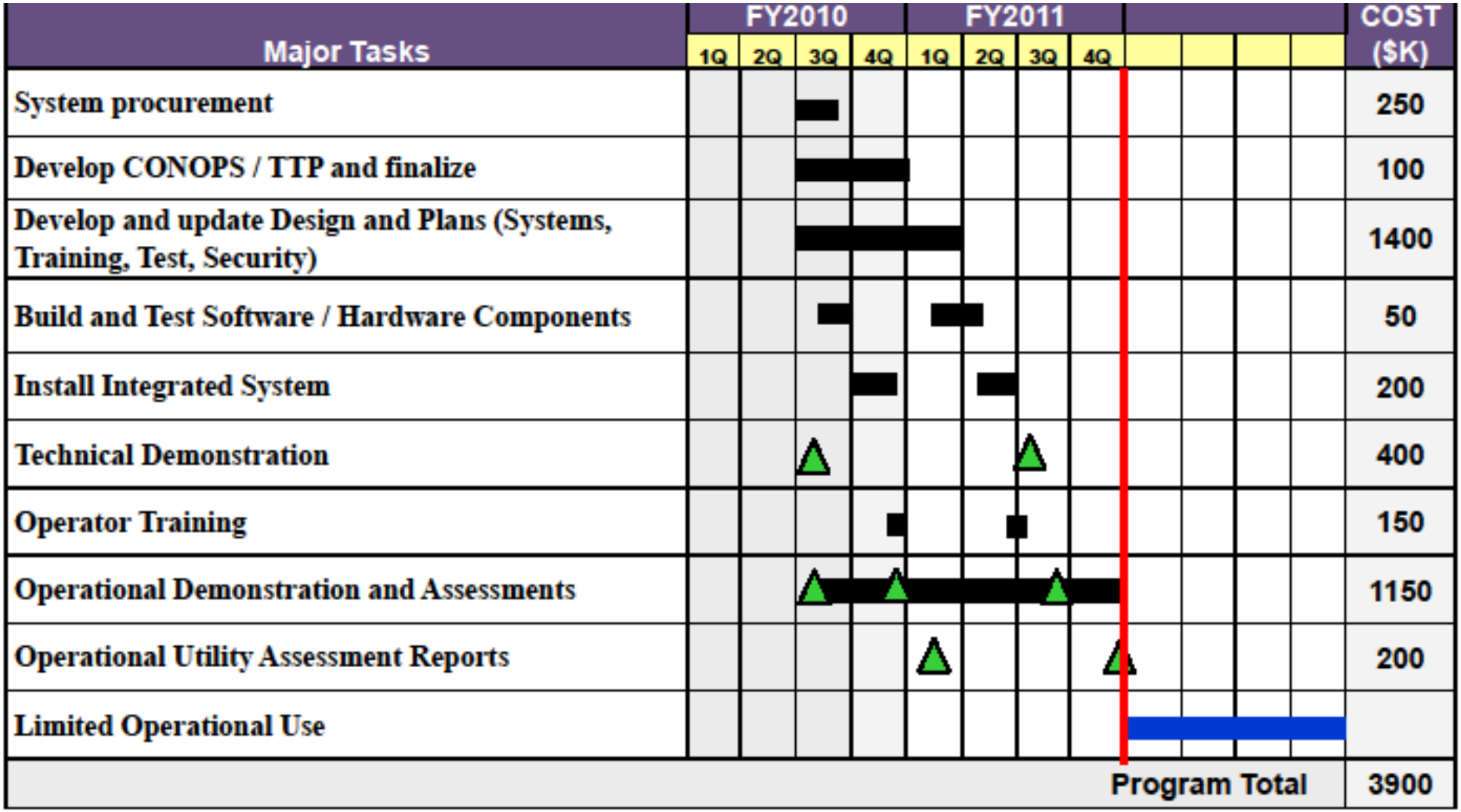
Speed to Deliver: Accelerating capability to the warfighter within a year should be a primary objective of the JCTD proposal. While not always possible to complete the JCTD in one year there must be a clearly defined deliverable at the end of the first year. For multi-year JCTD efforts, subsequent deliverables are required at the end of each year.

Executability: This goes along with Speed to Delivery and is also a Go/No-Go selection criteria. If approved, the JCTD must be immediately executable upon receipt of funds. Areas that must be addressed include:

- Does the technical approach and assessment strategy support an initial delivery with the first 12 months (e.g., fieldable prototype)?
- Are resources sufficient to execute the JCTD and is the proposed schedule executable with the resources provided?
- Will the contracting strategy allow for an initial delivery (e.g. field-able prototype) in one year?
- What are the technical, financial, and programmatic risks, and what actions are being taken to reduce those risks?

Defense Information Systems Agency
Department of Defense

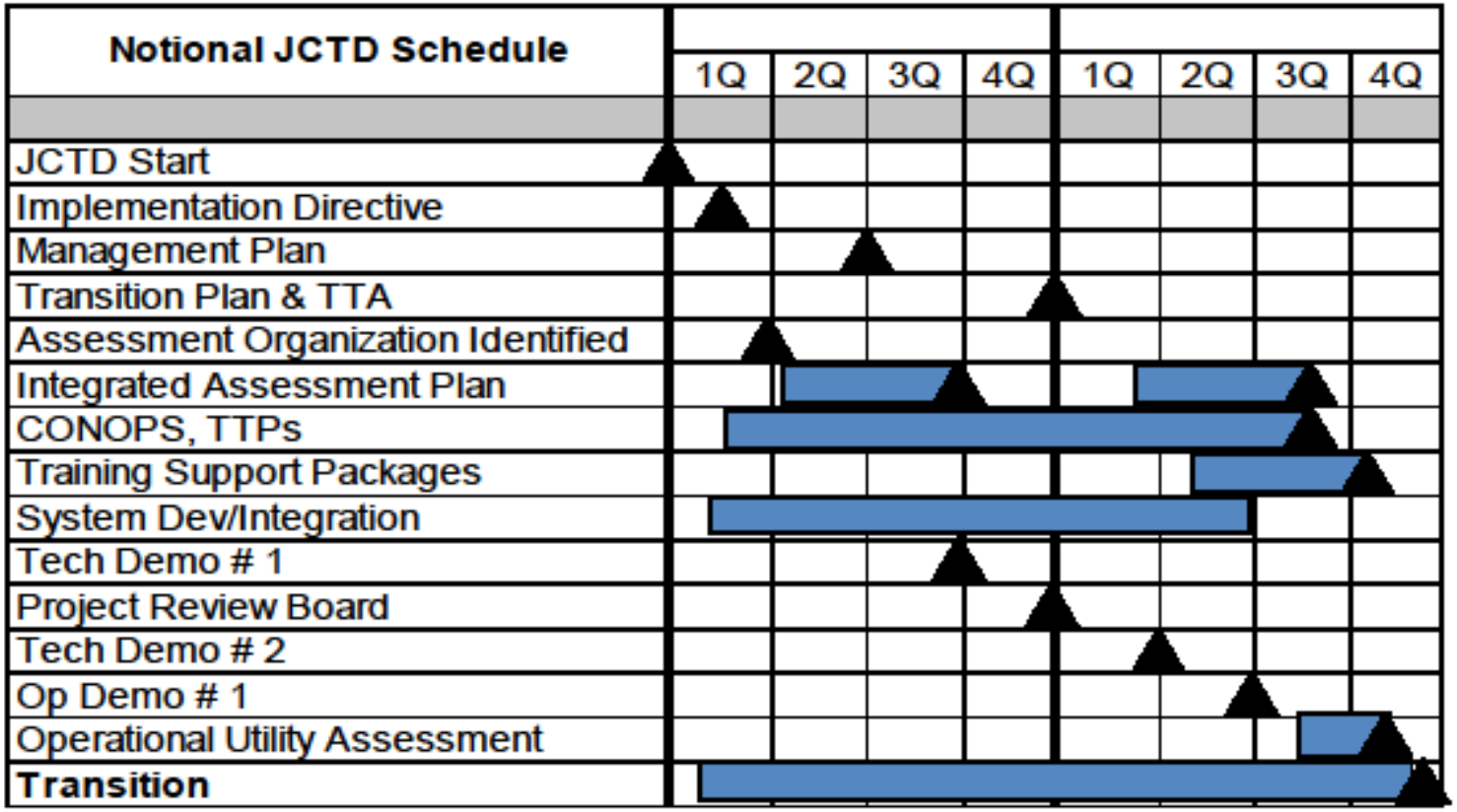
Scheduling & Cost



Major Tasks	FY2010 1Q	FY2010 2Q	FY2010 3Q	FY2010 4Q	FY2011 1Q	FY2011 2Q	FY2011 3Q	FY2011 4Q	COST ($K)
System procurement									250
Develop CONOPS / TTP and finalize									100
Develop and update Design and Plans (Systems, Training, Test, Security)									1400
Build and Test Software / Hardware Components									50
Install Integrated System									200
Technical Demonstration									400
Operator Training									150
Operational Demonstration and Assessments									1150
Operational Utility Assessment Reports									200
Limited Operational Use									
								Program Total	3900

Defense Information Systems Agency
Department of Defense

JCTD Schedule & Execution



Defense Information Systems Agency
Department of Defense

Documentation Requirements

TECHNICAL:

- Journal Article for Federation
- DODAF Views
- Sys Admin Guide
- Installation Guide
- Service User's Guide
- SSAA Updates
- Version Description Doc
- Interface Design Description
- Software Design Description
- Test Procedure & Report
- Software QA Report
- SLA/Terms of Use
- Software End Items
- DISA NetOps Checklist

OPERATIONAL:

- CONOPS
- TTPs
- JMUA Report
- Training Guide
- User's Guide
- OV level documentation
- Final Report, including:

JMUA Assessment
and memo
signed by OM,
plus Lessons Learned

TRANSITION:

- Transition Plan
- Training Videos
- TEMP
- DOTMLPF
- Service User's Guide

IN ADDITION:

- Security Documentation
- Any required JCCDS documentation

DISA
Defense Information Systems Agency
Department of Defense

Is This How JCTDs Look To You?